Patent Claims

1. Industrial fabric comprising a layer of batt of fibres optionally needled to a base cloth,
characterized in,
that during manufacture of the fabric a dispersion of particulate, polymeric material has been applied to the layer of batt of fibres and thermally activated to provide a discontinuous layer containing a mixture of batt fibres and a polymer – batt fibre matrix.

2. Industrial fabric according to claim 1,
characterized in,
that the discontinuous layer exists in x,y and z direction within the batt structure.

3. Industrial fabric according to one of the preceding claims,
characterized in,
that the fabric with the discontinuous layer substantially has the same permeability as the fabric before applying the discontinuous layer.

4. Industrial fabric according to one of the preceding claims,
characterized in,
that the discontinuous layer further comprises organic and / or inorganic matter.

5. Industrial fabric according to one of the preceding claims, characterized in, that at least one of the organic and / or inorganic matter is in the form of micro-fibres or micro particles or nano-particles or alloy or blend.

6. Industrial fabric according to one of the preceding claims, characterized in, that at least two of the organic and / or inorganic matters having different particle sizes and / or different melting points and / or different hardnesses.

7. Industrial fabric according to one of the preceding claims, characterized in, that the thermal activation comprises heating and / or applying incident irradiation.

8. Industrial fabric according to claim 7, characterized in, that the thermal activation affects a chemical reaction and / or a phase change.

9. Industrial fabric according to one of the preceding claims, characterized in, that the particulate polymeric material comprises thermoplastic and / or thermoset particles.

10. Industrial fabric according to one of the preceding claims, characterized in, that thermoplastic particles are thermoplastic elastomer particles, preferably elatomeric polyurethane.

11. Industrial fabric according to one of the preceding claims,
characterized in,
that the industrial fabric is a paper machine clothing, preferably a forming fabric or a press felt or a dryer fabric.

12. Method of making a industrial fabric comprising the following steps:
- applying a dispersion of particulate polymeric material to a batt of fibres, whereby the batt being optionally needled to a base cloth,
- thermally activating the dispersion of particulate polymeric material to bond the particulate material to the fibres and to provide a layer.

13. Method according to claim 12,
characterized in,
that the layer is a continuous polymer – batt fibre matrix layer.

14. Method according to claim 13,
characterized in,
that more than 20% weight add on of polymeric material is applied.

15. Method according to claim 12,
characterized in,
that the layer is a discontinuous layer containing a mixture of batt fibres and a polymer – batt fibre matrix.

16. Method according to claim 15,
characterized in,
that 0,1% to 20% weight add on, preferably 1% to 5% weight add on of polymeric material is applied.

17. Method according to one of the preceding claims,
characterized in,
that the diameter of the polymeric particles applied is in the range from 0,1 to 600 microns, preferably in the range from 1 to 300 microns and ideally in the range from 20 to 150 microns.

18. Method according to one of the preceding claims,
characterized in,
that the dispersion comprises at least one binder in liquid and / or solid form.

19. Method according to claim 18,
characterized in,
that binder includes any of the following either alone or in combination:- co-polyamides, co-polyesters, PVA's, PU's and nitrile latex rubbers.

20. Method according to claim 18 or 19,
characterized in,
that the binder is included in an amount of 0,05% to 2%, preferably in an amount of 0,1% to 0,5% based on the dispersion volume.

21. Method according to one of the preceding claims,
characterized in,
that the dispersion comprises at least one viscosity modifier.

22. Method according to claim 21,
characterized in,
that the viscosity modifier includes any of the following either alone or in combination:- Neutonian, Pseudo-plastic and/or strongly pseudo plastic types, based on PU, acrylic or PA's for water-borne systems, guar or natural gums.

23. Method according to claim 21 or 22,
characterized in,
that the viscosity modifier is included in an amount of 0,05% to 5%, preferably 0,1% to 2%, based on the dispersion volume.

24. Method according to one of the preceding claims,
characterized in,
that the dispersion comprises at least one anti-settling agent.

25. Method according to claim 24,
characterized in,
that the anti-settling agent is water soluble and comprises polyamide and / or polyacrylate ans / or polyurethane.

26. Method according to claim 25,
characterized in,
that the anti- settling agent is included in an amount of 0,1% to 2%, preferably 0,2% to 0,25%, based on the dispersion volume.

27. Method according to one of the preceding claims,
characterized in,
that the dispersion comprises at least one wetting agent.

28. Method according to claim 27,
characterized in,
that the wetting agent includes at lest one of: surfactants, ethoxylated ether.

29. Method according to claim 27 or 28,
characterized in,
that the wetting agent is included in an amount of 0,05% to 2%, preferably 0,05% to 0,25%, based on the dispersion volume.

30. Method according to one of the preceding claims,
characterized in,
that after the thermal activation the fabric is calendered.